

Notice of Allowability**Application No.**

10/581,194

Applicant(s)

TANAKA ET AL.

Examiner

PHUTTHIWAT WONGWIAN

Art Unit

3741

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. ☒ This communication is responsive to the amendment filed on 11/18/2009.
2. ☒ The allowed claim(s) is/are 1-11.
3. ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some* c) ☐ None of the:
- ☒ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).
- * Certified copies not received: _____.

Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.

THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. ☐ A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. ☐ CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
- (a) ☐ including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
- 1) ☐ hereto or 2) ☐ to Paper No./Mail Date _____.
- (b) ☐ including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.
- Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. ☐ DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

- | | |
|--|---|
| 1. <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 5. <input type="checkbox"/> Notice of Informal Patent Application |
| 2. <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 6. <input checked="" type="checkbox"/> Interview Summary (PTO-413),
Paper No./Mail Date <u>1/22/2010</u> . |
| 3. <input checked="" type="checkbox"/> Information Disclosure Statements (PTO/SB/08),
Paper No./Mail Date <u>06/01/2006</u> | 7. <input checked="" type="checkbox"/> Examiner's Amendment/Comment |
| 4. <input type="checkbox"/> Examiner's Comment Regarding Requirement for Deposit
of Biological Material | 8. <input checked="" type="checkbox"/> Examiner's Statement of Reasons for Allowance |
| | 9. <input type="checkbox"/> Other _____. |

DETAILED ACTION

Response to Amendment

1. This office action is responsive the amendment filed on 11/18/2009. Claims 1-11 are currently pending in this application.

Election/Restrictions

2. Applicant's election without traverse of Species A, claims 2, 5, 6 and 8-11 in the reply filed on 11/18/2009 is acknowledged, however, upon further consideration, the restriction requirements have been withdrawn.

EXAMINER'S AMENDMENT

3. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it **MUST** be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with Charles Gorenstein on 1/22/2010.

The application has been amended as follows:

The abstract has been changed to - - A gas turbine has a plurality of combustors in a toroidal arrangement to provide combustion gases to turbine blades, thereby rotating the turbine body. Thermocouples, the number of which is the same as or

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greater than the number of the combustors, are arranged toroidally at the outlets of the turbine blades and measure the temperatures of the combustion gases at the respective outlets. During the operation of the gas turbine, if an abnormality, such as misfire or fuel injection nozzle obstruction, occurs in one or more of the combustors, the resulting change in gas temperature triggers a signal to stop, and thereby protect the gas turbine. Based on the measured values of the blade pass temperatures of the thermocouples and set threshold temperatures, a fuel supply system may be caused to gradually decrease the fuel supplied to the combustors to bring the gas turbine body to an automatic stop, or it may be cut off instantaneously, thus immediately stopping the gas turbine. - -

Allowable Subject Matter

4. Claims 1-11 are allowed.
5. The following is an examiner's statement of reasons for allowance: The prior art fails to disclose or render obvious of a temperature deviation change amount large determining section for comparing the blade pass temperature deviation change amount of each temperature sensor computed by the temperature deviation change amount computing section with a blade pass temperature deviation change amount large set value to output a blade pass temperature deviation change amount large signal when the blade pass temperature deviation change amount of each temperature sensor exceeds the blade pass temperature deviation change amount large set value; a temperature deviation change amount present determining section for comparing the

blade pass temperature deviation change amount of each temperature sensor computed by the temperature deviation change amount computing section with a blade pass temperature deviation change amount present set value smaller than the blade pass temperature deviation change amount large set value to output a blade pass temperature deviation change amount present signal when the blade pass temperature deviation change amount of each temperature sensor exceeds the blade pass temperature deviation change amount present set value; and a protection signal outputting section for outputting the gas turbine protection signal when the blade pass temperature deviation change amount of any of the temperature sensors exceeds the blade pass temperature deviation change amount large set value, and the blade pass temperature deviation change amount large signal is outputted from the temperature deviation change amount large determining section, and when the blade pass temperature deviation change amount of any of the temperature sensors adjacent bilaterally to the any temperature sensor exceeds the blade pass temperature deviation change amount present set value, and the blade pass temperature deviation change amount present signal is outputted from the temperature deviation change amount present determining section.

Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to PHUTTHIWAT WONGWIAN whose telephone number is 571-270-5426. The examiner can normally be reached on Monday - Thursday, 7:30am - 5:00pm EST.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, MICHAEL A. CUFF can be reached on 571-272-6778. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/P. W./
Examiner, Art Unit 3741

/Michael Cuff/
Supervisory Patent Examiner, Art Unit 3741